

### REMARKS

In the above-mentioned, all of the pending claims, claims 21-37 were rejected. Claims 21-37 were rejected under Section 112, first paragraph. And, claims 21-37 were rejected under Section 102(e) over *Calderbank*.

The Examiner asserted, in the Section 112, first paragraph, rejection of the claims, that the specification fails to describe a difference matrix multiplied together with a Hermetian matrix that is proportional to an identity matrix for at least the shortest error event, recited in both of the independent claims, claims 21 and 31.

This rejection of the claims is respectfully traversed. Disclosure is made in the specification of the application, as originally filed, of such relationship between code matrices. For instance, the paragraph extending between page 15, line 23 and page 16, line 2 sets forth matrices,  $c$  and  $e$ , and the recited relationship therebetween. Specific note is made of the equation set forth on page 16, line 2 as such equation states mathematically the recitation of the difference matrix multiplied together with a Hermetian matrix thereof being proportional to an identity matrix ( $I$ ).

The Examiner's reliance upon *Calderbank* for disclosing the recited invention is also respectfully traversed. *Calderbank* fails to disclose use of code matrices that exhibit mathematical differences that define a difference matrix that the difference matrix multiplied together with a Hermetian matrix thereof is proportional to an identity matrix.

The Examiner specifically relied upon column 11, line 35 – column 13, line 60 for disclosing such relationship. And, the Examiner made note of equation 8 in column 13 of *Calderbank*.

While this equation, equation 8, sets forth a difference matrix, there is no disclosure of the difference matrix multiplied together with a Hermetian thereof that is proportional to an identity matrix. Column 12, line 62-63 states that a unitary matrix  $V$  and a real diagonal matrix  $D$  exist such that  $VA(ce)V^* = D$ . This disclosure is merely a statement of singular value. To the extent that the Examiner relies upon this disclosure in *Calderbank* for disclosing the recited arrangement set forth in claims 21 and 31, such reliance is believed to be misplaced.

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The recitations of the dependent claims are believed to be supported by the specification of the present application for the same reasons as those given with respect to their parent claims. Additionally, because the dependent claims include all of the limitations of their respective parent claims, the dependent claims are believed to be distinguishable over *Calderbank* for the same reasons as those given with respect to their parent claims.

In light of the foregoing, therefore, the rejections of the claims under Section 112, first paragraph and Section 102(e) are believed to be in error. Accordingly, reconsideration of the rejections of the claims is respectfully requested.

Respectfully submitted,

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